

A NEW GENUS OF WATER BEETLE *GENTILINA* GEN. NOV.
FROM AUSTRALIA (COLEOPTERA: HYDROPHILIDAE)

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Gentilina gen. nov. is described and illustrated from Queensland. It comprises one species previously described by Gentili (1993) as *Paranacaena nitens* after a female. The new genus belongs to the subfamily Hydrophilinae, tribe Laccobiini, and comes close to *Hydrophilomina* Hansen & Schödl, 1997 in its external appearance. The aedeagophore of a recent specimen is figured and a revised key to the genera of Laccobiini is given.

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It is not at all surprising to continue to discover new genera of insects from Australia. Many areas of this continent are still undercollected for water beetles. In particular, the Northern Territory was found to support new species of Hydrophiloidea such as *Spercheus watti* (Hebauer 1999), *Helochares* spp. (Hebauer & Hendrich 1999), some *Berosus* spp. (Watts 1987) and *Hydrochus* spp. (Watts 1999), as well as Anacaenini and Laccobiini (Gentili 1980, 2000) and a large number of new genera and species of Sphaeridiinae (Hansen 1990). At present there are 45 genera and over 200 species of Hydrophiloidea described from Australia (or 55 genera and over 250 species from the Australian region).

The Hydrophilidae tribe Laccobiini is poorly represented in Australia, until now with the sole genus *Laccobius*. A second genus of this tribe is described in this paper represented by a single species, found at two localities (North Queensland near the Cape Tribulation National Park; and Buderim Mountain). New material is deposited with the following institutions and individuals: Australian National Insect Collection, CSIRO, Canberra (ANIC); Collection of Elio Gentili, Rasa-Varese, Coll. Lars Hendrich, Berlin (CHB); Collection of Franz Hebauer, Grafing, Germany (CHG); Museo di Storia Naturale, Verona (MSNV); Naturhistorisches Museum Wien, (NMW); and the South Australian Museum, Adelaide (SAMA).

Gentilina gen. nov.

(Figs 1–4)

Type species

Paranacaena nitens Gentili, 1993, fixed by designation here. The gender is female.

Diagnosis

Body elongate, widest behind pronotal–elytral junction, contour not interrupted between pronotum and elytra, evenly attenuated posteriorly, weakly convex (Fig. 1). Dorsal face

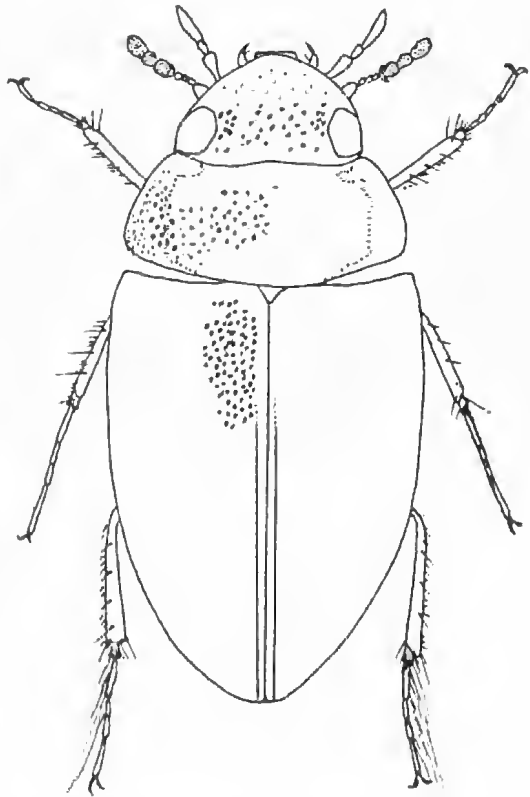


FIGURE 1. *Gentilina nitens* (Gentili), (ANIC), body shape.

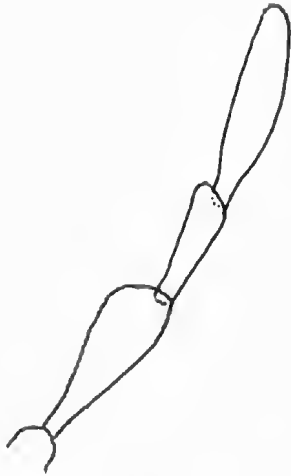


FIGURE 2. *Gentilina nitens* (Gentili), (ANIC), maxillary palp.

glabrous. Clypeus not demarcated from frons by a suture, forming a shelf above antennal base, reaching almost to outer edge of eyes; anterior margin convex, anterior corners rounded. Eyes rather large, separated by about 3x the width of one eye, very slightly protruding from outline of head; anterior margin hardly emarginate. Head slightly narrowed behind eyes. Maxillary palpi half as long as width of head; second segment swollen, apical portion thicker than basal portion; third segment much shorter than second; fourth segment almost twice as long as third, asymmetrical with inner face straightened (Fig. 2). Mentum rectangular, about 1.5x as wide as long, slightly concave, anterior margin almost straight. Labial palpi about as long as width of mentum, slender, cylindrical; second segment without subapical wreath of setae; third segment about as long as second, almost symmetrical. Gula well developed, almost parallel-sided. Antennae 9-segmented, half as long as width of head; first segment of moderate length; second about half as long as first; third to fifth segments very small, subequal; cupule rather small, well differentiated; segments 7 to 9 forming a somewhat compact, pubescent club, which is 3.5x as long as wide (Fig. 3). Pronotum widest at base, sides weakly rounded and strongly narrowed anteriorly; surface evenly convex, without transverse series of punctures at hind margin, but with distinct coarser setiferous punctures forming a short oblique transverse group on each side. Prosternum short, without antennal grooves, not conspicuously elevated medially and without a longitudinal

carina; middle portion defined from lateral portions by a pair of very fine oblique ridges; without spines. Mesosternum not fused to metepisterna, only reaching anterior mesothoracic margin at a single point; middle portion rather flat, without a lamina or projection. Metasternum with weakly raised middle portion, not projecting anteriorly between mesocoxae; with hydrofuge pubescence except for a narrow glabrous area on raised drop-shaped middle portion; without femoral lines. Metepisterna parallel-sided, about 6x as long as wide. Abdomen with 5 visible sternites; first and second of about same length, not longitudinally carinate; posterior margin of fifth ventrite subtruncate as in *Laccobius*, not emarginate medially; all ventrites covered with fine pubescence. Epipleura and pseudopipleura well defined from each other, oblique. Elytra slightly convex, evenly attenuated from shoulder to rounded apex, without punctural series, but with sharply impressed sutural stria in posterior two-thirds; rows of coarser systematic punctures hardly traceable. Scutellum of moderate size, triangular, about as long as wide. Coxae with sparse pubescence; anterior and posterior coxae almost contiguous; middle coxae narrowly separated; all trochanters with dense pubescence. Femora slightly flattened, with sharply defined tibial grooves on inner face. Anterior and middle femora covered with dense pubescence except apical portion; hind femora pubescent on basal half and along anterior margin. Middle and hind

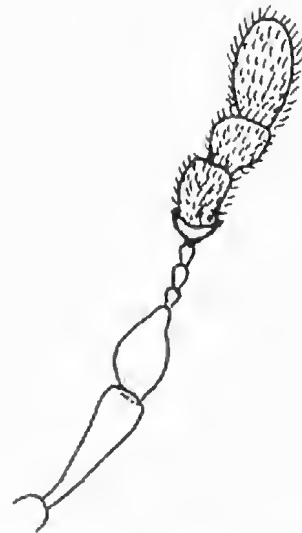


FIGURE 3. *Gentilina nitens* (Gentili), (ANIC), antenna.

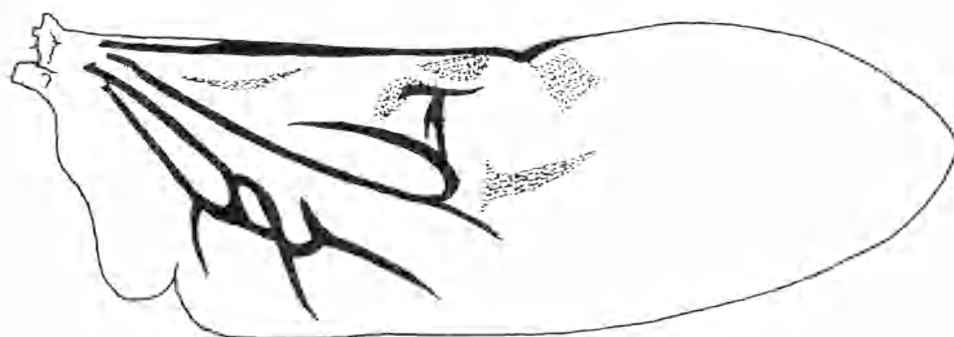


FIGURE 4. *Gentilina nitens* (Gentili), (ANIC), hind wing

femora completely contacting the trochanter basally. Tibiae slender, cylindrical and straight, with moderately long and moderately strong spines on inner face. Tarsi 5-segmented, long and slender, together surpassing length of tibiae; posterior tibiae with a fringe of long and fine swimming-hairs on outer face. The first segment of middle and hind tarsi short; second segment very long, claws rather small, slightly and evenly curved; without sexual dimorphism. Hind wing almost twice as long as elytra; radial cross vein r4 rising from about middle of radial cell (pigmented area at anterior wing margin); medial (cubital) spur rising from apex of medial loop, reaching a little less than halfway towards posterior wing margin; media distinct and united with cubitus to form a M-Cu loop; wedge cell much smaller than basal cell; anal lobe well developed, demarcated from remainder wing by a sharp excision at posterior wing margin (Fig 4).

Etymology

The generic name refers to my dear friend Dr. Elio Gentili, specialist in the genus *Laccobius* and discoverer of the type species.

Discussion

This new genus has the following diagnostic features of Laccobiini (Oocyclini), as given by Hansen (1991):

- the presence of systematic punctures on head, pronotum and elytra (sometimes not detectable on all three parts; if completely absent then the pseudepipleuron is at least as wide as the true epipleuron anteriorly or is sharply defined from it by a fine ridge
- the apical segment of maxillary palpi longer than the penultimate.

Anacaenini genera of similar size and colour differ from *Gentilina* in the following characters:

- *Paracymus* has the midprosternum sharply carinate and the maxillary palpi shorter than half as long as the width of the head.
- *Anacaena* has no traces of systematic punctures on head, pronotum or elytra; the pseudepipleuron is narrow throughout, much narrower than the true epipleuron anteriorly.
- *Paranacaena* has, in addition, detectable rows of serial punctures on the elytra.

Gentilina comes close to *Hydrophilomima* Hansen & Schödl and, apart from *Scoliopsis* Orchymont and *Tritonus* Mulsant, it is the only genus of Laccobiini with 9-segmented antennae. Besides *Pseudopelthydrus* Jia, it is the only genus of the tribe with the middle and hind femora extensively pubescent. The present known species ranks with the smallest members of the tribe.

Gentilina differs from the genus *Laccobius* mainly in the 5-segmented abdomen, the 9-segmented antennae and the pubescent femora. From *Pelthydrus* it is distinguished by the 9-segmented antennae, the presence of a sutural stria, and the pubescent femora. From *Pseudopelthydrus*, which also has pubescent femora, *Gentilina* is separated by the 9-segmented antennae and the non-keeled first ventrite. In contrast to *Gentilina*, *Arabhydrus* Hebauer has 8-segmented antennae, its maxillary palpi are distinctly longer (two-thirds as long as width of head) and the second segment is not thickened apically. From the similarly shaped *Hydrophilomima*, the new genus can be distinguished by the middle portion of the mesosternum lacking an elevated portion, the 9-segmented antennae, the swollen second segment of the maxillary palpi being not more than half as

long as the width of the head (about two-thirds in *Hydrophilomima*), the first ventrite being unkeeled, and the extensively pubescent femora (entirely glabrous in *Hydrophilomima*). The genera *Tritonus* Mulsant, *Scoliopsis* Orchymont, *Oocyclus* Sharp and *Beralitra* Orchymont are much larger in size and less easily confused with the above genera because of their striking characters, for example spines, explanate elytra, reniform eyes, acutely pointed hind angles of pronotum.

Gentilina nitens (GENTILI, 1993)
(Fig. 5)

Type material

Holotype (female): Australia: Queensland, Buderim Mtn., Mooloolah, C. J. W. Dec-89 [=1889! C. J. W. = not Watts! The locality is just north of Brisbane] (SAMA).

Paratypes: 4 females as for holotype (SAMA, MSNV).

Additional material: 97 examples: Australia. North-Queensland/Cape Tribulation, Daintree National Park, Turpentine Road, 120 m, 8.xii.1996, Hendrich leg./Loc. 18. (ANIC, CHB, CHG, NMW, SAMA).

Because there is now available a large number of new specimens, including males, a redescription of the species is given here.

Redescription

Length: 1.8–2.0 mm; width: 0.9–1.0 mm. Elongate oval, widest behind shoulders, attenuated behind, moderately convex, black with sides and angles of pronotum widely pale. Head entirely black; clypeus weakly punctate and shagreened, frons rather coarsely and densely irregularly punctate. Maxillary palpi rather long, reaching back to posterior margin of eyes; second segment distinctly dilated on anterior portion, ultimate segment much longer than third, asymmetrical, darkened apically. Antennae 9-segmented. Pronotum widest at base, narrowed anteriorly, shining black with sides and angles broadly yellow; rather coarsely and irregularly punctate; punctured interstices shining. Elytra entirely black, shining, about 1.2x as long as their combined width; coarsely and densely punctate, subseriate; sutural stria sharply impressed in more than posterior half. Irregular rows of coarser punctures hardly traceable. Epipleura oblique. Legs testaceo-brunneous; femora basally darkened; tarsi long and slender, middle and hind tarsi longer than tibiae; with long and fine

swimming-hairs. Underside piceous; abdomen 5-segmented, entirely pubescent, first ventrite not carinate medially, fifth segment subtruncate, without apical excision. Mentum rectangular, slightly concave, rugosely reticulated. Prosternum without median carina and without apical notch. Mesosternum only bluntly bulging medially, without a distinct elevation or projection. Anterior and middle femora pubescent except apical portion; posterior femora pubescent in basal half and anterior margin. Aedeagophore with basal piece rather narrow and slender; median lobe filiform, a little shorter than parameres, bifurcate basally. Parameres broad, strongly convex on outer face and straight on inner face, apices pointed (Fig. 5).

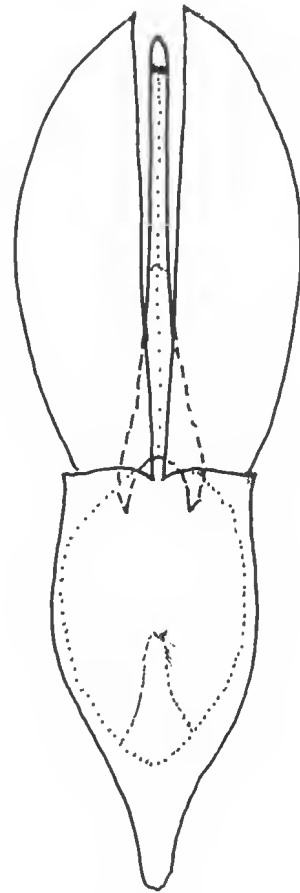


FIGURE 5. *Gentilina nitens* (Gentili), (CHG), aedeagophore.

Distribution

Known only from Queensland. Lars Hendrich (pers. comm.) collected numerous specimens in a small waterfilled rockhole (20 sq cm) in front of a waterfall. The puddle was enriched with some plant debris. The beetles have the habit of flying away immediately when taken out of the water (as in *Agraphydrus* and many *Laccobius*). The small, permanent and almost shaded stream is situated in primary lowland rainforest on private property near the Cape Tribulation National Park.

REVISED KEY TO THE GENERA OF THE TRIBE
LACCOBIINI

- 1 — Maxillary palpi at least two-thirds as long as width of head. Mesosternum broadly reaching anterior mesothoracic margin. First ventrite with median carina, at least basally 2
- Maxillary palpi less than half as long as width of head. Mesosternum only reaching anterior mesothoracic margin at a single point. First ventrite without a keel 5
- 2 — Anterior and middle femora densely pubescent except at apex, posterior femora pubescent in basal half and/or along anterior and posterior margin. Prosternum almost flat, without median carina—southern China *Pseudopelthydrus* Jia, 1998
- All femora glabrous or pubescent in less than basal half. Prosternum more or less tectiform, with median carina at least anteriorly 3
- 3 — Abdomen with 6 distinct ventrites. Mesosternum only bluntly bulging posteromedially—Arabian Peninsula (Oman) *Arabhydrus* Hebauer, 1997
- Abdomen with 5 distinct ventrites. Mesosternum abruptly raised posteromedially, forming a strongly margined, elevated portion 4
- 4 — Metasternum with narrow, somewhat flattened, glabrous median ridge which is connected with median ridge of mesosternal elevation to form a continuous sternal keel. Femora with well-developed tibial grooves on inner face—Oriental region *Hydrophilomima* Hansen & Schödl, 1997
- Metasternum simply convex, often more shiny in middle portion, but without median ridge, anteriorly well demarcated from mesosternum. Femora without well-defined tibial grooves on inner face—Oriental and eastern Palaearctic regions *Pelthydrus* Orchymont, 1919
- 5 — Abdomen with 6 distinct ventrites. Trochanters of posterior legs very large, not completely abutting femora, but with bluntly projecting apices. Posterior tibiae usually curved—worldwide (except South America) *Laccobius* Erichson, 1837
- Abdomen with 5 distinct ventrites. Trochanters of posterior legs of moderate size, not freely projecting apically. Posterior tibiae straight 6
- 6 — Elytra with distinct sutural stria in about posterior half. Antennae 9-segmented .. 7
- Elytra without distinct sutural stria, but sometimes with the sutures a little elevated posteriorly. Ventrites uniformly pubescent and punctate. Antennae 8-segmented ... 9
- 7 — Second to fifth ventrites with large well-defined, glabrous and almost impunctate areas medially 8
- All ventrites pubescent—Australia *Gentilina* gen. nov.
- 8 — Posterior corners of pronotum angulate, not produced into a long acute spine. Pro- and mesosternum without spines. Eyes hardly oblique in dorsal view—Mauritius *Tritonus* Mulsant, 1844
- Posterior corners of pronotum produced into a long acute spine. Pro- and mesosternum with some strong spines medially. Eyes obliquely shaped in dorsal view—Sri Lanka *Scoliopsis* Orchymont, 1919
- 9 — Elytra a little explanate towards margin, the suture distinctly raised posteriorly. Body weakly convex—South America *Beralitra* Orchymont, 1919
- Elytra not explanate towards margin, the suture not raised. Body often more convex—Oriental and Neotropical regions *Oocyclus* Sharp, 1882

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REFERENCES

- Erichson, WF. 1837 (1837–1839). Die Käfer der Mark Brandenburg. Vol. I. viii + 740 pp. (only pp. 1–384 issued in 1837). F. H. Morin: Berlin.
- Gentili, E. 1980. The genera *Laccobius* and *Nothydrus* (Coleoptera, Hydrophilidae) in Australia and New Zealand. *Records of the South Australian Museum* 18(7): 143–154.
- Gentili, E. 1993. *Paranacaena* Blackburn, 1889: a valid genus (Coleoptera, Hydrophilidae). Results of the German hydroentomological mission No. 4 [in part]. *Giornale italiano di Entomologia* 6: 285–296.
- Gentili, E. 2000. The *Paracymus* of Australia (Coleoptera, Hydrophilidae). *Records of the South Australian Museum* 33(2): 101–122.
- Hansen, M. 1990. Australian Sphaeridiinae (Coleoptera: Hydrophilidae): A taxonomic outline with descriptions of new genera and species. *Invertebrate Taxonomy* 4: 317–395.
- Hansen, M. 1991. The Hydrophiloid beetles. Phylogeny, classification and a revision of the genera (Coleoptera, Hydrophiloidea). *Biologiske Skrifter. Det Kongelige Danske Videnskaberens Selskab* 40: 1–367.
- Hansen, M & Schödl S. 1997: Description of *Hydrophilomima* gen. n. from Southeast Asia (Coleoptera: Hydrophilidae). *Koleopterologische Rundschau*, 67: 187–194.
- Hebauer, F. 1997. Annotated checklist of the Hydrophilidae and Helophoridae (Insecta: Coleoptera) of the Arabian Peninsula with a description of a new genus and species. *Fauna of Saudi Arabia* 16: 255–275.
- Hebauer, F & Hendrich, L. 1999: Two new species of *Helochares* from Northern Australia (Coleoptera: Hydrophilidae). *Entomological Problems* 30(1): 47–51.
- Hebauer, F. 1999. *Spercheus watsi* sp. n. – a second Australian species of the genus (Coleoptera, Hydrophiloidea). *Acta Coleopterologica* 15(2): 5–6.
- Jia, F. 1998. A new genus *Pseudopelthydrus* gen. n. from Hainan Island, China (Coleoptera: Hydrophilidae: Hydrophilinae). *Chinese Journal of Entomology* 18: 225–230.
- Mulsant, E. 1844. Description de quelques Palpicornes inédits. *Annales de la Société d'Agriculture de Lyon* 7: 372–382.
- Orchymont, A d'. 1919. Contribution a l'étude des sous-familles des Sphaeridiinae et des Hydrophilinae (Col. Hydrophilidae). *Annales de la Société Entomologique de France* 88: 105–168.
- Sharp, D. 1882. Insecta. Coleoptera. Vol. I, part 2 (Halipilidae, Dytiseidae, Gyrinidae, Hydrophilidae, Heteroceridae, Parnidae, Georissidae, Cyathoceridae, Staphylinidae). In FD Godman & O Salvin 'Biologia Centrali-Americana (16)'. xv + 824 pp. Taylor and Francis: London (only pp. 1–144 issued in 1882).
- Watts, CHS. 1987. Revision of Australian *Berosus* Leach (Coleoptera: Hydrophilidae). *Records of the South Australian Museum* 21(1): 1–28.
- Watts, CHS. 1999. Revision of Australian *Hydrochus* (Coleoptera: Hydrochidae). *Records of the South Australian Museum* 32(1): 1–43.